

REMARKS

In the outstanding Official Action, the Examiner indicated that the arguments filed in the Response of May 9, 2005 have been considered and have been deemed persuasive. Accordingly, the Examiner indicated that the rejection based on the CHEN reference has been withdrawn. Applicant notes the above consideration given to his arguments with appreciation.

However, the Examiner indicated that a new ground of rejection has been set forth based on a newly discovered reference. For reasons as will be set forth hereinbelow, Applicant respectfully traverses the above-noted rejection and submits that it is inappropriate with respect to the features recited in Applicant's claim 1.

In the outstanding Official Action, the Examiner indicated claims 2-30 are allowed. Applicant respectfully thanks the Examiner for this indication but submits that in view of the remarks that follow, all the claims in the present application are clearly in condition for allowance.

In the outstanding Official Action, the Examiner set forth a Statement of Reasons for the indication of allowable subject matter. For reasons as set forth in the Response filed on May 9, 2005, the reasons for allowability of the pending claims should not be limited merely to those features enumerated by the Examiner in the Reasons for Allowable Subject Matter.

In the outstanding Official Action, the Examiner rejected claim 1 under 35 U.S.C. § 102(e) as being anticipated by KOSHIBA et al. (U.S. Patent No. 6,836,289). The Examiner asserted that the first interpolation processor recited in claim 1 corresponds to the horizontal interpolation 1004 of Fig. 10a, while the second interpolation processor

corresponds to the vertical noise filter and interpolation 1008, also of Fig. 10a. Applicant respectfully traverses the above rejection and submits that the combination of features recited in the Applicant's claim 1 is not taught, disclosed nor rendered obvious by KOSHIBA et al.

In this regard, Applicant notes that the embodiment of the present invention recited in claim 1 relates to an image interpolation device. In particular, the image interpolation device includes an imaging device as well as first and second interpolation processors. The imaging device has a light receiving surface on which pixels are disposed in a matrix arrangement, a subject image being formed on the light receiving surface that generate first color signals corresponding to the subject image in the pixels. The first interpolation processor performs a first interpolation process using the first color signals generated in a plurality of adjacent pixels positioned adjacent to an objective pixel to obtain a second color signal of the objective pixel. The second interpolation processor performs a second interpolation process using the second color signal of the objective pixel to modify at least one of the first color signals.

It is respectfully submitted that the combination of features recited in Applicant's claim 1 is not taught by KOSHIBA et al. In particular, in the claimed combination, a second interpolation processor as particularly defined to modify at least one of the first color signals by using the second color signal is not taught, disclosed nor rendered obvious by KOSHIBA et al.

KOSHIBA et al. relates to a digital still camera architecture with red and blue interpolation using green as weighing factors. In particular, KOSHIBA et al. discloses an interpolation for a Bayer pattern color filtered array with red and blue interpolation

using weightings as ratios of corresponding green pixel values. However, as can clearly be seen from Fig. 10 (particularly Figs. 10c and 10e) the second interpolation processor, as defined in the claimed combination of Applicant's claim 1 is not taught, disclosed nor rendered obvious thereby.

In setting forth the rejection, the Examiner directs Applicant's attention to Fig. 10c and asserts that KOSHIBA et al. teaches a first interpolation processor (horizontal interpolation 1004) and a second interpolation processor 1008. While this is clearly true, the operation of the first and second processors of KOSHIBA et al. is not in accord with the recitations in Applicant's claim 1.

In this regard, as is clear, an interpolation process is performed in Fig. 10c to produce a second color signal (e.g., G_{12}) using the raw data color signal. As shown in Fig. 10c, the second color signal (e.g., G_{12}) can be based either on the normal mode calculation or on the simple mode calculation. In the normal mode, raw data or values such as R_{10} , R_{12} , R_{14} , G_{11} and G_{13} are utilized.

The vertical interpolation is shown in Fig. 10e, wherein a color adjustment is carried out, again in either a normal mode or in a simple mode. The interpolation filter, in the simple mode, utilizes the data of the vertical interpolation sub-module 1008 and bypasses color adjustment (column 30, lines 45-56). In the normal mode, a third color signal (e.g., b_{12}) as shown in Fig. 10e is obtained utilizing the color adjustment. However, in obtaining this "third" color signal, the first color signal (i.e., the raw data) is not modified, as can clearly be seen by a comparison of the top and bottom arrays of Fig. 10e.

However, Applicant's claim expressly recites that the second interpolation processor performs a second interpolation process "using said second color signal of said objective pixel to modify at least one of said first color signals". This feature, in the claimed combination, is not taught, disclosed nor rendered obvious by KOSHIBA et al. Accordingly, KOSHIBA et al. is an inappropriate basis for the rejection of claim 1.

In view of the above discussion, Applicant respectfully requests reconsideration of the outstanding rejection together with an indication of the allowability of claim 1 together with the other claims in the present application.

Applicant notes with appreciation the Examiner's indication of the allowability of claims 2-30 and further notes the Examiner's Statement of Reasons for Allowable Subject Matter. In this regard and as noted in the prior Response of May 9, 2005, while Applicant does not disagree with any of the features enumerated by the Examiner, Applicant further points out that independent claim 2 defines a particular combination of features and the patentability of claim 2 is thus based on the totality of the features recited therein.

In addition, each of the dependent claims recite additional features and the combinations including such additional features provide a further basis for patentability. Accordingly, the reasons for patentability should not be limited to those features enumerated by the Examiner.

SUMMARY AND CONCLUSION

Applicant has made a sincere effort to place the present application in condition for allowance and believes that he has now done so.

Applicant has discussed the features of Applicant's embodiment of the invention defined in claim 1 and has compared the same with the disclosure of the reference relied upon. Applicant has discussed the disclosure of the relied upon reference and has shown how the same is inadequate and insufficient to anticipate the recited features of Applicant's claim 1. Accordingly, Applicant has provided a clear evidentiary basis supporting the patentability of all the claims in the present application and respectfully requests an indication to such effect in due course.

Should the Examiner have any questions or comments regarding this Response, or the present application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,
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